

WHAT IS CLAIMED IS:

1. A method of operating an emergency shut-off system for a small watercraft that includes a hull defining an engine compartment, an internal combustion engine supported within the engine compartment, an overturn switch, and an electronic control unit that is in electrical communication with the overturn switch, the method comprising:
  - sensing a signal from the overturn switch with the electronic control unit,
  - determining if the overturn switch is generating a signal for at least a preset amount of time,
  - shutting off the engine if the overturn switch has generated a signal for at least the preset amount of time.
2. A method as in claim 1, further comprising closing one or more shutoff valves that are operatively connected to the electronic control unit and that are positioned within one or more intake passages defined between the hull and the engine compartment, whereby the valves are closed if the overturn switch has generated a signal for at least the preset amount of time.
3. A method as in claim 1, further comprising activating a bilge pump that is operatively connected to the electronic control unit and that is positioned within the engine compartment, whereby the bilge pump is activated if the overturn switch has generated a signal for at least the preset amount of time.
4. A method as in claim 1, further comprising closing one or more valves that are operatively connected to the electronic control unit and are positioned within in a fuel system of the engine, whereby the valves are closed if the overturned switch has generated a signal for at least the preset amount of time.
5. A method as in claim 1, further comprising closing one or more valves that are operatively connected to the electronic control unit and are positioned within an lubrication system of the engine, whereby the valves are closed if the overturned switch has generated a signal for at least the preset amount of time.
6. A method of operating an emergency shut-off system for a small watercraft that includes a hull defining an engine compartment, an internal combustion engine supported within the engine compartment, a water level detection sensor

positioned in the engine compartment, a bilge pump, and an electronic control unit that is in electrical communication with the sensor and the pump, the method comprising

5                   sensing a signal from the water level detection sensor with the electronic control unit,

shutting off the engine when the water level detection sensor indicates that water in the engine compartment exceeds a preset level,  
activating the bilge pump.

7.       A method as in claim 6, further comprising preventing the engine from restarting until the water in the engine compartment is less than a second preset level.

10      8.       A method as in claim 6, further comprising closing one or more shutoff valves that are operatively connected to the electronic control unit and that are positioned within one or more intake passages defined between the hull and the engine compartment, whereby the valves are closed when the water level detection sensor indicates that water in the engine compartment exceeds the preset level.

15      9.       A method as in claim 6, further comprising activating a bilge pump that is operatively connected to the electronic control unit and that is positioned within the engine compartment, whereby the valves are closed when the water level detection sensor indicates that water in the engine compartment exceeds the preset level.

20      10.      A method as in claim 6, further comprising closing one or more valves that are operatively connected to the electronic control unit and are positioned within in a fuel system of the engine, whereby the valves are closed when the water level detection sensor indicates that water in the engine compartment exceeds the preset level.

25      11.      A method as in claim 6, further comprising closing one or more valves that are operatively connected to the electronic control unit and are positioned within an lubrication system of the engine, whereby the valves are closed when the water level detection sensor indicates that water in the engine compartment exceeds the preset level.

30      12.      A small watercraft comprising a hull defining an engine compartment, an internal combustion engine supported within the engine compartment, and an emergency shut-off system comprising an overturn switch, an electronic control unit that is in electrical communication with the overturn switch and the engine, the electronic control unit configured to sense a signal generated by the overturn switch, to determine if the signal generated by the overturn switch continues for a period longer than a preset

amount of time, and to shut off the engine if the signal generated by the overturn switch continues beyond the preset amount of time.

13. The small watercraft as set forth in claim 12, further comprising a one or more intake ducts that guide air outside the hull into the engine compartment, and one or more intake shutoff valves positioned within the one or more intake ducts, the intake shutoff valves operatively connected to the electronic control unit, which is further configured to close the one or more shutoff valves when the signal generated by the overturn switch continues beyond the reset amount of time and whereby the hull is substantially sealed

10 14. The small watercraft as set forth in claim 12, further comprising a bilge pump located within the engine compartment and operatively connected to the electronic control unit, which is further configured to activate the bilge pump when the signal generated by the overturn switch continues beyond the preset amount of time.

15 15. The small watercraft as set forth in claim 12, wherein said engine includes a fuel system with one or more valves operatively connected to the electronic control unit, which is further configured to close the one or more valves in the fuel system when the signal generated by the overturn switch continues beyond the preset amount of time, whereby a fuel supply is interrupted.

20 16. The small watercraft as set forth in claim 12, wherein said engine includes a lubrication system with one or more valves operatively connected to the electronic control unit which is further configured to close the one or more valves in the lubrication system when the signal generated by the overturn switch continues beyond the preset amount of time.

25 17. A small watercraft comprising a hull defining an engine compartment, an internal combustion engine supported within the engine compartment, a water level detection sensor positioned in the engine compartment, a bilge pump positioned within the hull, and an electronic control unit in electrical communication with the bilge pump and the engine, the sensor configured to send a signal to the electronic control unit when water in the engine compartment rises above a specified level, the electronic control unit configured to sense the signal from the water level detection sensor and to shut off the engine and to activate a bilge pump that is positioned within the engine compartment.

18. The small watercraft as set forth in claim 17, further comprising a one or more intake ducts that guide air outside the hull into the engine compartment, and one or more intake shutoff valves positioned within the one or more intake ducts, the intake shutoff valves operatively connected to the electronic control unit, which is further configured to close the one or more shutoff valves when the water level detection sensor indicates that the water in the engine compartment rises above a specified level.

5           19. The small watercraft as set forth in claim 17, further comprising a bilge pump located within the engine compartment and operatively connected to the electronic control unit, which is further configured to activate the bilge pump when the water level detection sensor indicates that the water in the engine compartment rises above a specified level.

10           20. The small watercraft as set forth in claim 17, wherein said engine includes a fuel system with one or more valves operatively connected to the electronic control unit, which is further configured to close the one or more valves in the fuel system when the water level detection sensor indicates that the water in the engine compartment rises above a specified level, whereby a fuel supply is interrupted.

15           21. The small watercraft as set forth in claim 17, wherein said engine includes a lubrication system with one or more valves operatively connected to the electronic control unit which is further configured to close the one or more valves in the lubrication system when the water level detection sensor indicates that the water in the engine compartment rises above a specified level.

20           22. A small watercraft comprising a hull defining an engine compartment, an internal combustion engine supported within the engine compartment, a bilge pump positioned within the hull, an electronic control unit in electrical communication with the bilge pump and the internal combustion engine, and means for shutting off the engine when the watercraft is overturned.

25           23. The small watercraft as set forth in claim 22, wherein said means for shutting off the engine comprises an overturn switch that is in electrical communication with the electronic control unit, the electronic control unit configured to sense a signal generated by the overturn switch and to determine if the signal generated by the overturn switch continues for a period longer than a preset amount of time.

24. The small watercraft as set forth in claim 22, wherein said means for shutting off the engine comprises a water level detection sensor configured to send a signal to the electronic control unit when water in the engine compartment rises above a specified level.

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